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IN THE U.S. PATENT AND TRADEMARK OFFICE

Appl. No. : 09/626,430
Applicant : Bantz et al.
Filed : July 27, 2000
TC/AU : 2143
Examiner : Lezak, Arienne M.

Docket No. : YOR9-2000-0316
Customer No. : 29683

Title : SERVICE PROVISIONING VIA ATTRIBUTE-BASED SUBSCRIPTION

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S APPEAL BRIEF (Amended)

Sir:

In reply to the Notice of Non-Compliant Appeal Brief dated May 11, 2006, the Applicant/Appellant hereby submits this APPEAL BRIEF (Amended) to the Board of Patent Appeals and Interferences to replace the Appeal Brief dated October 26, 2005. Enclosed is a draft in the amount of \$120 for a one month time extension. Should the undersigned attorney be mistaken as to time or fees, please consider this a petition for an additional extension of time under 37 C.F.R. § 1.136(a) or (b) that may be required to avoid dismissal of this appeal, and debit Deposit Account No. 50-0510 as appropriate. As compared to the previously filed Appeal Brief, only section (5) includes amended matter.

(1) REAL PARTY IN INTEREST

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The real party in interest (RPI) is International Business Machines Corporation of Armonk, New York, to which the present application has been assigned by the inventors on July 21 and 24, 2000. That assignment has been recorded on July 27, 2000 with the U.S. Patent Office.

(2) RELATED APPEALS AND INTERFERENCES

There are no other pending appeals or interferences of which the undersigned representative and Applicant/Appellant is aware that will directly affect, be directly affected by or have a bearing on the Board's decision in this appeal.

(3) STATUS OF CLAIMS

Claims 1-40 are pending in this appeal, and are reproduced in an Appendix accompanying this Brief as those claims stood finally rejected by an Office Action dated March 24, 2004.

This application was filed on July 27, 2000 with forty claims. In response to an Office Action dated September 16, 2003, the Applicant amended independent claims 1, 25, 26, 27, 28 and 35. Claim 36 is the only independent claim that was not amended on that date. In response to a final Office Action dated March 24, 2004, the Applicant filed a Response (after final rejection) dated June 8, 2004, which made arguments but no amendments to the claims. While that Response (after final) was entered by an Advisory Action dated August 13, 2004 recited that the Response (after final rejection) did not place the application in condition for allowance, but would be entered for purposes of Appeal. The claims as finally rejected are reproduced in an Appendix hereto.

(4) STATUS OF AMENDMENTS

No amendment to the claims was proposed subsequent to the final Office Action dated March 24th, 2004.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention is directed toward a service provider provisioning services to a customer via one or more software applications, and claims are drawn to a method, a system, and a computer program embodied on a medium. In the method claims, a set of attributes of a service provision is established. A service level agreement SLA with a service provider is defined by selecting from the set of attributes. The customer is provisioned services in accordance with constraints imposed by the SLA. Dependent method claims are directed to re-provisioning the customer in response to various criteria, changes or a failure, allocating various data processing resources to a task of the customer, re-allocating resources, and various specific attributes of the set.

Apparatus claims are drawn to systems and an embodied computer program. Certain of these claims recite that the services are provisioned to a customer, within constraints imposed by the SLA, by allocating data processing resources to a site that offers data processing capacity for use. The customer may also be re-provisioned transparently by re-allocating data processing resources. The data processing capabilities of a plurality of sites may be registered, and the data processing capability may be allocated from the capability registered by a plurality of sites.

As described in the background section of the present invention, the networking environment affects the economics and usability of service provider (SP) provided services (page 2, lines 20-21), and the customer may require that sensitive data never leave

the customer's premises, while the software providing the service may depend on that data being locally accessible. (page 2, line 31 to page 3, line 1). "The problem to be solved may thus be simply stated as follows: the appropriate provisioning of the service should involve execution of components of the service locally, but the SP does not support local provisioning, and the customer does not desire to support his own local provisioning." (page 3, lines 12-17). The environment to which the claimed invention is directed, as recited in the preamble of each independent claim, is therefore a method, a data processing system, or a computer program for provisioning a customer with a software application.

Specifically, the independent claims include method claims 1, 25, 26; system claims 27 and 36; and computer program claim 35. Claim 1 recites a method for service provisioning a customer with at least one software application from a service provider, comprising steps of: establishing a set of attributes of a service provision. By example, the set of attributes are established by a customer beginning at block 83 of Fig. 8 and as described at page 18 lines 23-25. The attributes may include functional, performance or availability attributes (page 5 lines 21-27, page 24 lines 22-24) such as cost attribute (e.g., cost per month, page 18 lines 25-26), interactivity attribute (e.g., high, medium or low interactivity, page 16 line 28 to page 17 line 9), and availability attribute (e.g., percent uptime, page 18 lines 27-28). Claim 1 further recites selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider. For example, the customer is presented with a list of services, each with one or more provisionings (where the provisioning reflects the attributes of the service provision), at step 85 of Fig. 8 and page 19 lines 1-3, each having an associated service level agreement SLA. Each SLA therefore has a set of attributes for a particular service provision associated with it, and the customer selects from the list. Claim 1 concludes with provisioning at least one client

computer of the customer in accordance with constraints imposed by the SLA. Provisioning the customer is described at Fig. 5 block 46 after the customer is identified at block 41, and more particularly in Fig. 10. Page 12 lines 1-16 describes determining that the customer is authorized prior to the customer manager 30 (e.g., a software component of the service provider, see page 11 lines 26-29) and provisioning the services to the customer. The provisioned services may be a software service (page 28 line 10-12) such as data processing (page 27 lines 15-17), data storage, and/or application software (page 28 lines 21-22). The provisioned services are in accordance with the constraints imposed by the SLA (page 6 lines 1-6; page 29 lines 24-27), where the selected set of attributes associated with that SLA may serve as the constraints, and where at least one of the customer's computers is provisioned (page 7 lines 14-16).

System claim 27 is similar to method claim 1, but recites that a system management server (ref. no.15 of Figs. 3 and 11; page 11 lines 4-8) is for establishing the set of attributes, and is responsive to the SLA for provisioning the at least one customer computer. Claim 27 further recites a customer interface (ref. no. 29 of Fig. 4; whole of Fig. 9; page 15 line 2 to page 16 line 2) for selecting the set of attributes.

Method claim 25 differs from claim 1 in reciting that the customer is provisioned, within the constraints imposed by the SLA, by allocating at least some required data processing resources to at least one data processing site that offers data processing capacity for use. The data processing resources may be allocated, for example, to fixed or mobile data processing sites DPS 3' that are coupled to a communication network 2 and that register their data processing capability with an electronic marketplace (page 28 lines 12-35). A virtual service provider 1', coupled to a customer 3A, 3B through the network 2, may

allocate data processing capability using the registered data processing capabilities of the DPSs 3' to provision the customer (page 29 lines 1-17). Claim 25 further recites transparently re-provisioning the customer, within the constraints imposed by the SLA, by re-allocating at least some required data processing resources from the at least one data processing site that offers data processing capacity for use to one of the customer, the service provider, or another service provider. Transparent re-allocation is described at page 29 lines 28-33, where the customer flexibly chooses whether to provide the services themselves or to outsource it.

Claim 26 differs over claim 25 in that at least some required data processing resources are allocated to at least one other service provider. The recited "other" service provider may be any of the "other" service providers 1A, 1B ... 1n (apart from "the" service provider 1) shown in Fig. 4 that may be made available to the customer 3 through a negotiation facility (page 30 lines 13-21) or through a value added services reseller VASR (page 31 lines 5-10).

Claim 35 is an embodied computer program claim similar to claim 26. Specific first through fourth executable code as recited in claim 35 is described at page 7 line 18 to page 8 line 5.

Claim 36 is a system claim that recites a plurality of data processing sites (Fig. 4, DPS 3'), a communication network (Fig. 4, network 2), program code for registering available data processing capability (Fig. 11, DPS registration list 100A), and a virtual service provider (Fig. 11, 1') that includes a system management server. Each of these is as described and detailed above with respect to the other independent claims

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 25, 26, 35 and 36 stand rejected under 35 U.S.C. § 102(b) as anticipated by Cox (U.S. Pat. No. 5,812,533).

B. Claims 1-20, 24-26, 28-33, 35 and 36 stand rejected under 35 U.S.C. § 103(a) as obvious over the teachings of Cox, with no other references apart from ordinary skill in the art cited.

C. Claims 10-17, 21-24, 27-34 and 36-40 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Cox with Daly (U.S. Pat. No. 5,748,896).

(7) ARGUMENT

A1. ANTICIPATION OF CLAIMS 25, 26 and 35 BY COX:

Independent claims 25, 26 (drawn to a method), and 35 (drawn to a computer program) each recite, in relevant part, allocating at least some required data processing resources to at least one data processing site, and re-allocating at least some required data processing resources from the at least one data processing site (emphasis added). The Applicant/Appellant asserts that Cox discloses neither of these aspects.

Cox is directed to the deployment and delivery of services, especially by an intelligent network. Cox, col. 3, lines 43-51. Within the Cox service delivery infrastructure a

“service is considered to be a unique entity which only has meaning within the context of a particular virtual network 800. Therefore a virtual network 800 must exist before a service can be deployed within the SDI 200.” Cox, col. 20, lines 60-63. Additionally, Cox states that “an SDI service is an executable application that can process calls.” Cox, col. 21, lines 1-2.

i. Cox Fails to Disclose Allocating at Least Some Required Data Processing Resources To at Least One Data Processing Site.

The final Office Action asserts that Cox discloses allocating data processing resources to a data processing site (as well as a preceding claim element) at col. 3, lines 52-63; col. 45, lines 23-67 (claim 1); and col. 46, lines 1-37 (claims 2-3). Col. 3, lines 52-63 of Cox merely repeats Cox’s claim 1, so claims 1-3 are reviewed below for teachings relevant to the above claim element.

Cox’s claim 1, and col. 3, lines 52-63, is directed to a network that has physical locations bearing a location ID to which services are provided. The network has a feature data store that stores executable code that when executed, provide a service. Also described is a processor that selects the code, and a virtual data store that stores sets of a) virtual network location IDs, b) user IDs, and c) user profiles with user-specific parameters of one or more services. Also disclosed is a service package store that stores packages of services, and a map correlating the virtual networks to the physical location IDs. In response to a request, the processor identifies a service package and provides the user parameters to a means for executing the code, which then executes the code using the user-specific parameters to provide a requested service.

In the above-summarized portions of Cox, no disclosure is seen relating to allocating data processing resources to a site. While Cox explicitly discloses physical locations and identifiers for such, it is in the context of the location to which the services are provided. Cox is not seen to disclose that data processing resources are allocated to any site or sites.

Cox's claim 2 relates to distributing the service package store among the virtual network representations, and similarly is not seen to relate to allocating data processing resources to a specific site.

Cox's claim 3 is somewhat similar to its claim 1, but recites data structures that include a library of service features, an array of virtual networks (having virtual location IDs, allocated services, and user-specific data for those services), and a map relating virtual ID to physical location ID. In Cox's claim 3, a service execution means identifies and accesses a requesting virtual network, then locates and executes the service features with the user-specific data in provisioning the services. As with Cox's claims 1-2, there appears no disclosure concerning allocating data processing resources to any particular site. The cited material describes providing services (executable code) by use of the map and library, by which the services that are allocated to the user are provided to the user's physical location through knowledge of the virtual network ID (which identifies the requesting user and associated physical location ID). While the user's physical location is within these teachings, there appears no disclosure as to data processing or allocating data processing resources to any data processing site.

ii. Cox Fails to Disclose Re-Allocating at Least Some Required Data Processing Resources From the at Least One Data Processing Site.

The final Office Action asserts that Cox discloses re-allocating data processing resources from a data processing site (as well as a preceding claim element) at col. 4, lines 17-23; col. 5, lines 13-16; and col. 7, lines 6-16. The cited portions of col. 4 relates to a stored array of service independent features, and are not seen relevant to re-allocating data processing resources to a particular site. The cited portions of col. 5 describe the features as independent from physical attributes of the network, and in that respect teach that features are unrelated to physical resources at a site. However, the cited portions of col. 7 are related to physical attributes, reciting that customers can choose to change the physical capacity available to them by means of a virtual network. This is not a teaching relevant

to a site at which that physical processing capacity is located; it is a teaching of access to transmission capacity in a telecommunication network rather than location of data processing capacity in a software processing application. That a customer is granted access to additional transmission capacity does not imply a re-allocation of processing power but merely an addition of bandwidth. Even assuming arguendo that allocating data processing resources to a site (as in section A1, part i above) is inherent to Cox, it appears improper hindsight to characterize Cox's teaching with respect to changes in transmission capacity in a telecommunication network to a re-allocation of data processing resources from one physical site to another.

For at least the above reasons, claims 25, 26, and 35 are seen to be novel over Cox.

A2. ANTICIPATION OF CLAIM 36 BY COX:

Independent system claim 36 recites a plurality of data processing sites comprising program code for registering available data processing capability; and a virtual service provider comprising a system management server for allocating data processing capability for provisioning the customer from the data processing capability registered by said plurality of data processing sites (emphasis added).

i. Cox Fails to Disclose Data Processing Sites Comprising Program Code for Registering Available Data Processing Capability.

The final Office Action asserts that Cox discloses program code for registering available data processing capability at the portions cited and detailed above in section A1, parts i and ii, with no further details relating to the specific claimed language of claim 36. However, consistent with the above arguments at section A1, Cox is not seen to disclose registering data processing capability, available or otherwise.

In response to the Applicant/Appellant's argument (of January 26, 2004) that the reference fails to show certain features as above, the Office Action recites at numbered paragraph 23 that "...Examiner further acknowledges that the communications network described (within Cox) is applicable to any network offering a variety of services to the customer while being able to add or modify the portfolio of services available, (Abstract)." This point may be relevant to whether Cox's disclosure anticipates a data processing system generally as opposed to the virtual network Cox recites, but appears irrelevant to registering data processing capability as recited in claim 36. Nowhere is Cox seen to disclose registering data processing capability, or to suggest registering any computing capacity at any location for any purpose.

ii. Cox Fails to Disclose a System Management Server for Allocating Data Processing Capability from the Data Processing Capability Registered by the Plurality of Sites.

The final Office Action asserts that Cox discloses allocating data processing capability from capability registered by a plurality of sites as detailed above in sections A1 part i and ii, also with no further details relating to the specific claimed language of claim 36. Consistent with the characterization of those teachings above, Cox is not seen to disclose allocation based on registered data processing capability, or even registering capacity by a plurality of sites.

In response to the Applicant/Appellant's argument (of January 26, 2004) that the reference fails to show certain features as above, the Office Action recites at numbered paragraph 25 "Applicant's acknowledgement of Cox disclosing a virtual network inherently implies the use of a virtual service provider, and thus claim 36 is also rejected.". Assuming arguendo that a virtual service provider is inherent within the Cox virtual network, the rejection fails

to address where Cox discloses allocating any computing capability based on a registration, and specifically fails to disclose doing so for data processing capability registered by a plurality of sites. Cox is not seen to provide such disclosure, and in general is not seen to include specific teachings related to the hardware that supports services over the Cox network.

For at least the above reasons, claim 36 is seen to be novel over Cox.

B. OBVIOUSNESS OF CLAIMS 1-20, 24-26, 28-33, 35 AND 36 WITH RESPECT TO COX:

i. With Respect to Claim 1, 2, 13-16 and 24, Cox Fails to Disclose Provisioning at Least One Client Computer of the Customer in Accordance with Constraints Imposed by a Service Level Agreement.

Claims 2, 13-16 and 24 stand or fall with independent method claim 1 as to obviousness over Cox. The final Office Action is seen to assert at numbered paragraph 19 that claim 1 is obvious over Cox alone, in that the references to Daly relate only to claim 27. Claim 1 recites in part:

“..establishing a set of attributes of a service provision; selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider; and provisioning at least one client computer of the customer in accordance with constraints imposed by the SLA.” (emphasis added)

To this, the Office Action references Cox, col. 1, lines 6-12 and 31-43 for the first clause, and col. 3 lines 52-63, col. 45 lines 23-67, and col. 46 lines 1-37 for the remaining second and third clauses. As in section A1, part i above, above, col. 45 lines 23-67, and col. 46

lines 1-37 refer to Cox claims 1-3. Consistent with the above characterizations of those Cox teachings, there appears no teaching as to provisioning at least one client computer of the customer, and it is not seen how such a result might be obvious from the teachings that are present in Cox.

Cox is primarily concerned with providing a Service Delivery Infrastructure (SDI) to support and manage service delivery in a telecommunication environment, rather than with the service creation process itself. Accordingly Cox et al. states:

“There is an obvious need for infrastructure to support and manage service delivery, which can allow the service provider or user to take advantage of the flexibility of the developing service creation capabilities without also creating insurmountable difficulties in service management or access.”
(column 3, lines 46-51)

Cox further defines a virtual network as:

“... a term used to describe a network effectively dedicated to use of a single customer, such as an international corporate entity, which appears to the user much as a private network would have appeared in the past, defined in dedicated hardware, but which is defined from a greater transmission capability usually simply by software. That is, the virtual network is only limited, for instance in geographical layout and in capacity, by a software specification, in accordance with the requirements of the customer, which specification allocates resources from a transmission network.” (column 6, lines 54-65)

As previously noted, within the Cox et al. Service Delivery Infrastructure environment,

“A service is considered to be a unique entity which only has meaning within the context of a particular virtual network 800. Therefore a virtual

network 800 must exist before a service can be deployed within the SDI
200. (column 20, lines 60-63)

An SDI service is an executable application that can process calls. (column
21, lines 1-2)

This is clearly distinguishable from claim 1 of the present invention as Cox is not seen to disclose or suggest the use of Service Level Agreements (SLAs) where services are made available to at least one client computer of a customer of a service provider. As previously noted Cox is primarily concerned with providing a Service Delivery Infrastructure over virtual networks and not with the service creation process itself. It is further submitted that it would not have been obvious to one skilled in the art at the time of the invention to use the virtual network Service Delivery Infrastructure of Cox to provision at least one client computer of a customer of a service provider, as the Cox SDI service is an executable application that can process calls (see column 21, lines 1-2) in a telecommunications network using traditional and mobile telephones. It is not seen where one would be motivated to extend the virtual network SDI call processing requirement of Cox et al. to at least one client computer of a customer of a service provider. Therefore, claim 1 is seen as non-obvious over Cox.

ii. With Respect to Claims 3-4, Cox Fails to Disclose Re-Provisioning the Customer in Response to a Customer-Related Criterion or a Service-Provider Criterion.

Claims 3-4 depend from claim 1 and further recite re-provisioning the customer in response to a change in a customer service-related criterion (claim 3) or a service provider criterion (claim 4), within the constraints imposed by the SLA. Whereas it is argued in section B, part i above that it is not obvious to modify Cox such that at least one client computer of the customer is provisioned in accordance with constraints imposed by the SLA, it is further not seen where Cox teaches or suggests to one of ordinary skill that the customer may be re-provisioned in response to a service related criterion or a service provider criterion.

The arguments of section A1, part i, are repeated and re-affirmed for non-obviousness of claims 3-4, which further distinguish over Cox and obvious variations of it for re-provisioning in response to the claimed criterion. Most pertinently, it is not seen how Cox may make obvious a re-provisioning in response to a service-provider criterion, as Cox details at col. 7 only that customers can choose to change physical (transmission) capacity available to them by means of a virtual network.

iii. With Respect to Claims 5, 11, 19-20, 28 and 32-33, Cox Fails to Disclose Provisioning or Re-Provisioning the Customer by Allocating Data Processing Resources of the Service Provider to a Data Processing Task of the Customer.

Each of these dependent claims recite allocating data processing resources of the service provider to a data processing task of the customer. As in section A1, part i and ii above, Cox is not seen to include teachings that anticipate or make obvious allocating data processing tasks, and the only teachings cited as relevant concern allowing the customer to increase transmission capacity. Cox is not seen to teach that there may be different potential sources for that excess transmission capacity.

In rejecting the claim groups argued in section B parts iii through v, the Office Action appears to speculate that what is obvious in light of Cox happens to coincide with three different sources of data processing capability that distinguishes those three claim groupings. No teaching in Cox is seen to support such speculation. To the contrary, the Office Action assumes the claims are obvious without clarifying what in Cox makes them so. It is not seen as obvious, by the teachings of Cox, to allocate data processing resources

of the service provider to the customer. Cox is not seen to teach or suggest data processing, let alone allocating data processing resources of one party to another.

iv. With Respect to Claims 6, 9, 12, 20 and 28, Cox Fails to Disclose Provisioning or Re-Provisioning the Customer with Data Processing Resources of the Service Provider by Allocating Data Processing Resources of the Customer to a Data Processing Task of the Customer.

Each of these dependent claims recite allocating data processing resources of the customer to a data processing task of the customer. As in section B part iii above, Cox is not seen to allocate data processing tasks, and the limited teachings related to allowing the customer to increase transmission capacity are not seen as teaching from where or whom that excess transmission capacity is obtained. Further, the environment of these claims, as recited in the preamble of claim 1, is provisioning a customer with at least one software application from a service provider. It is not seen as obvious, by the teachings of Cox, for a provisioning service provider, to allocate data processing resources of a customer to a data processing task of that same customer. There is no disclosure seen in Cox wherein the customer relinquishes control over any of its own capacity, transmission or processing, that is later allocated by the service provider to that same customer.

v. With Respect to Claims 7-10, 17-20, 28 and 30-33, Cox Fails to Disclose Provisioning or Re-Provisioning the Customer by Allocating Data Processing Resources of Another Service Provider to a Data Processing Task of the Customer.

Each of these claims recite allocating data processing resources of another service provider to a data processing task of the customer. In claim 1 from which claims 7-10 and 17-20 depend, the service provider and the customer are related by a SLA. Similar holds

true for claims 28 and 30-33, which depend from claim 27. These claims each recite “other” or “another” service provider separate from “the service provider” identified in claims 1 and 27 by the SLA. Cox is not seen to allocate data processing tasks, and the limited teachings related to allowing the customer to increase transmission capacity are not seen as teaching from where that excess transmission capacity is obtained. It is not seen as obvious, by the teachings of Cox, for a service provider that has a SLA with a customer, to allocate data processing resources from another service provider to a data processing task of the customer. Cox is not seen to teach or suggest providing data processing capabilities from any third party.

vi. With Respect to Claims 25-26 and 35, Cox Fails to Disclose Transparently Re-Provisioning the Customer by Re-Allocating at least Some Data Processing Resources.

Each of these claims are independent, and discussed in detail at section A12, part i above. Those arguments are repeated as to non-obviousness over Cox in it is not an obvious variation of Cox to re-allocate data processing resources. Additionally, Cox is not seen to teach or suggest transparently re-provisioning the customer. In what is seen as the only relevant teaching at col. 7, lines 6-16, Cox teaches that customers can choose to change the physical (transmission) capacity available to them by means of a virtual network. Even assuming arguendo that this is a teaching relevant to provisioning or re-provisioning the customer, it is seen to be a teaching away from transparently doing so, as it is an explicit teaching of changing (transmission) capacity only at the customer’s direction.

vii. With Respect to Claims 36, the Combination of Cox with Daly Fails to Teach or Suggest Provisioning the Customer From Data Processing Capability Registered by a Plurality of Data Processing Sites.

Independent system claim 36 is characterized in section A2 part ii above, and is argued to be novel over Cox in that Cox does not disclose registering data processing capability, or allocating data processing capability from the registered capability, the registered capability being from a plurality of sites. Daly does not teach those elements of claim 36, and the Office Action does not contend that it does. It is further argued that it is not an obvious variation of Cox to register data capabilities from one or a plurality of sites, or to allocate based on such a registration. Cox is silent as to data processing capabilities and distributed data processing capacity. Assuming *arguendo* that it is inherent within Cox that data processing occur and that some site must necessarily host the data processing, claim 36 remains non-obvious because it recites that capability is registered by a plurality of sites, and Cox fails to teach or suggest any reason to register data processing capability from a plurality of sites. This is at least because Cox provides no basis for distributed data processing, or that data processing may be exchanged between parties.

C. OBVIOUSNESS OF CLAIMS 27-34 AND 36-40 WITH RESPECT TO COX COMBINED WITH

DALY:

Claims 27 and 37-40 are rejected as obvious over the combination of Cox with Daly, and claims 28-34 and 36 are rejected on an alternative basis (apart from an obvious modification to Cox per section B above) over the same combination.

i. With Respect to Claim 27, the Combination of Cox and Daly Fails to Disclose a System Management Server being Responsive to a SLA for Provisioning at Least One Client Computer of a Customer in Accordance with Constraints Imposed by the SLA.

Claim 29 stands or falls with independent system claim 27 as to obviousness over the combination of Cox with Daly. Claim 27 recites in relevant part:

“a customer interface for selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider, said system management server being responsive to said SLA for provisioning at least one client computer of the customer in accordance with constraints imposed by the SLA.” (emphasis added)

The rejection at numbered paragraph 12 cites to Daly (abstract, col. 1, line 10, and col. 2, lines 50-67) as teaching a system and method for managing network services which employs the use of a system management server in a computer network. It further asserts at numbered paragraph 13 that it would be obvious to use the system management server, computer network components, and Internet applications of Daly within the service provision system and method of Cox. It is clear that Daly is cited only for its teachings relevant to the system management server of claim 27 (which is not recited in claim 1), and Cox is relied upon for rendering obvious the remaining elements of claim 27 just as it was against the whole of claim 1.

First, Daly is not seen to teach that a system management server is responsive to a SLA as recited in claim 27, and Cox is not seen to provide teachings to fill that deficiency. Second, and as argued with reference to claim 1 at section B part I above (obviousness over Cox), Cox is not seen to teach or suggest provisioning at least one client computer of the customer as recited in both claims 1 and 27. Daly is not seen to teach or suggest this aspect either, and more particularly is not seen as disclosing an SLA that imposes constraints for such provisioning, and so claim 27 remains non-obvious over the combination of Cox and Daly for the above separate and distinct reasons.

ii. With Respect to Claim 36, the Combination of Cox and Daly Fails to Correct the Deficiencies of Obvious Variations of Cox Detailed Above.

Claims 37-38 stand or fall with independent system claim 36 as to obviousness over Cox and Daly. Pending claim 36 recites a plurality of data processing sites comprising program code for registering available data processing capability; and a virtual service provider comprising a system management server for allocating data processing capability for provisioning the customer from the data processing capability registered by said plurality of data processing sites. Claim 36 is argued in section A2 and section B, part vii above as being novel and non-obvious over Cox. Daley is cited in an “alternative interpretation” rejection against claim 36 only for its teaching respecting utilization of a “system management server”. Daly is not seen to correct the deficiencies in the art relating to program code for registering data processing capability, or that the system management server allocate data processing capability for provisioning a customer, or that the customer be provisioned from data processing capability that is registered by a plurality of data processing sites. Neither is Day asserted to include such teaching. Neither Cox nor Daly nor their combination teach or suggest distributed data processing capability that may be available to provision a customer, or registering same for that

purpose. Claim 36 is therefore seen as non-obvious even over the “alternative interpretation” of Cox recited in the Office Action, whether or not combined with Daly.

iii. With Respect to Claims 28 and 30-33, the Combination of Cox and Daly Fails to Correct the Deficiencies of Obvious Variations of Cox Detailed Above.

These claims depend from system claim 27. The Office Action rejects these claims under the “alternative interpretation” recited in section C part ii above respecting claim 36, again citing Daly only for teaching utilization of a system management server, personal computers, or the Internet (which in the alternative interpretation are not specifically enumerated in Cox). However, Daly is not seen to cure the defects in obvious variations of Cox detailed in section B parts iii through v above for these claims, nor is Daly asserted to provide such teachings or suggestions. Therefore, the combination of Cox with Daly fails to render obvious each of claims 28 and 30-33 for the same reasons cited above.

iv. With Respect to Claim 34, the Combination of Cox and Daly Fails to Teach or Suggest Re-Provisioning the Customer in Response to a Change in Data Processing Resource Utilization, Predicted or Actual Data Processing Resource Availability, or a Failure of a Data Processing Resource.

Claim 34 depends from system claim 27. Cox is not seen to provide alternatives to re-provision a customer in response to a change in actual or predicted data processing resources. Daly also fails to do so, and is not cited for such teachings. No combination of Cox and Daly are therefore seen to teach or suggest these elements of claim 34.

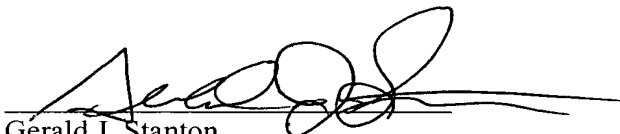
v. With Respect to Claims 39-40, the Combination of Cox and Daly Fails to Teach or Suggest Program Code for Registering Available Data processing Capability.

Claims 39-40 depend from system claim 36, and further each recite program code for registering available data processing capability. As argued above in section A2 part i for claim 36, Cox is not seen to disclose registering data processing capability. Daly is not asserted to include teachings relevant to this aspect of claims 39-40, and they are not seen as obvious variants of Cox, which fails to teach or suggest that data processing capability may be distributed, registered, or otherwise coordinated.

For at least the above reasons, the Applicant/Appellant contends that the combination of Cox and Daly do not, alone or in combination with one another or ordinary skill in the art, anticipate or render obvious any of the claims. The Applicant/Appellant respectfully requests the Board reverse the final rejection in the Office Action of March 24th, 2004, and further that the Board rule that the pending claims are patentable over the cited art.

Respectfully submitted:

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(9) APPENDIX

Listing of Claims:

1. (Previously Amended) A method for service provisioning a customer with at least one software application from a service provider, comprising steps of:

establishing a set of attributes of a service provision;

selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider; and

provisioning at least one client computer of the customer in accordance with constraints imposed by the SLA.

2. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer in response to a change in the SLA.

3. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, in response to at least one customer service-related criterion.

4. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, in response to at least one service provider criterion.

5. (Original) A method as in claim 1, wherein the step of provisioning the customer includes a step of allocating service provider data processing resources to a data processing task of the customer.

6. (Original) A method as in claim 1, wherein the step of provisioning the customer includes a step of allocating customer data processing resources to a data processing task of the customer.

7. (Original) A method as in claim 1, wherein the step of provisioning the customer includes a step of allocating data processing resources of another service provider to a data processing task of the customer.

8. (Original) A method as in claim 1, wherein the step of provisioning the customer includes a step of allocating all required data processing resources from at least one other service provider to a data processing task of the customer.

9. (Original) A method as in claim 1, wherein the step of provisioning the customer includes a step of allocating all required data processing resources from at least one other service provider, and from the customer, to a data processing task of the customer.

10. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources from at least one other service provider to a data processing task of the customer.

11. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources from the service provider to a data processing task of the customer.

12. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources from the customer to a data processing task of the customer.

13. (Original) A method as in claim 1, wherein said attributes comprise a cost attribute.

14. (Original) A method as in claim 1, wherein said attributes comprise an interactivity attribute.

15. (Original) A method as in claim 1, wherein said attributes comprise an availability attribute.

16. (Original) A method as in claim 1, wherein said SLA is comprised of at least one of a cost attribute, an interactivity attribute, and an availability attribute.

17. (Original) A method as in claim 1, wherein the service provider is a virtual service provider, and wherein the step of provisioning the customer, within the constraints imposed by the SLA, includes a step of allocating at least some required data processing resources from at least one other service provider to a data processing task of the customer.

18. (Original) A method as in claim 1, wherein the service provider is a value-added services provider, and wherein the step of provisioning the customer, within the constraints imposed by the SLA, includes a step of allocating at least some required data processing resources from at least one other service provider to a data processing task of the customer.

19. (Original) A method as in claim 1, wherein the service provider is a value-added services provider, and wherein the step of provisioning the customer, within the constraints imposed by the SLA, includes a step of allocating at least some required data processing resources from data processing resources of the value-added services provider, and from at least one other service provider, to a data processing task of the customer.

20. (Original) A method as in claim 1, wherein the service provider is a value-added services provider, and wherein the step of provisioning the customer, within the constraints imposed by the SLA, includes a step of allocating at least some required data processing resources from data processing resources of the value-added services provider, from at least one other service provider, and from the customer, to a data processing task of the customer, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, by changing the allocation of at least some of the allocated data processing resources.

21. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, in response to a change in data processing resource utilization.

22. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, in response to a change in predicted or actual data processing resource availability.

23. (Original) A method as in claim 1, and further comprising a step of re-provisioning the customer, within the constraints imposed by the SLA, in response to a failure of a data processing resource.

24. (Original) A method as in claim 1, wherein the service provider is a virtual service provider, and wherein the step of provisioning the customer, within the constraints imposed by the SLA, includes a step of allocating at least some required data processing resources from at least one data processing site that offers data processing capacity for use in satisfying data processing requirements of the customer.

25. (Previously Amended) A method for service provisioning a customer with at least one software application from a service provider, comprising steps of:

establishing a set of attributes of a service provision;

selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider;

provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources to at least one data processing site that offers data processing capacity for use; and

transparently re-provisioning the customer, within the constraints imposed by the SLA, by re-allocating at least some required data processing resources from the at least one data processing site that offers data

processing capacity for use to one of the customer, the service provider, or another service provider.

26. (Previously Amended) A method for service provisioning a customer with at least one software application from a service provider, comprising steps of:

establishing a set of attributes of a service provision;

selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider;

provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources to at least one other service provider that offers data processing capacity for use; and

transparently re-provisioning the customer, within the constraints imposed by the SLA, by re-allocating at least some required data processing resources from the at least other service provider that offers data processing capacity for use to one of the customer, the service provider, or a data processing site that offers data processing capacity for use.

27. (Previously Amended) A data processing system for service provisioning a customer with at least one software application from a service provider, said service provider and said customer being coupled together through a communication network, said system comprising:

a system management server for establishing a set of attributes of a service provision; and

a customer interface for selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider, said system management server being responsive to said SLA for provisioning at least

one client computer of the customer in accordance with constraints imposed by the SLA.

28. (Original) A system as in claim 27, wherein said system management server is responsive to at least one of a customer service-related criterion, a service provider criterion, or a change in a data processing environment, for re-provisioning the customer, within constraints imposed by said SLA, by allocating service provider data processing resources to a data processing task of the customer, or by allocating customer data processing resources to a data processing task of the customer, or by allocating data processing resources of another service provider to a data processing task of the customer, or by allocating all required data processing resources from at least one other service provider to a data processing task of the customer, or by allocating data processing resources from a remote data processing site to a data processing task of the customer.

29. (Original) A system as in claim 27, wherein said attributes comprise at least one of a cost attribute, an interactivity attribute, and an availability attribute.

30. (Original) A system as in claim 27, wherein the service provider is a virtual service provider, and wherein the customer is provisioned and re-provisioned, within the constraints imposed by the SLA, by allocating at least some required data processing resources from at least one other service provider to a data processing task of the customer.

31. (Original) A system as in claim 27, wherein the service provider is a value-added services provider, and wherein the customer is provisioned and re-provisioned, within the constraints imposed by the SLA, by allocating at least some required data processing resources from at least one other service provider to a data processing task of the customer.

32. (Original) A system as in claim 27, wherein the service provider is a value-added services provider, and wherein the customer is provisioned and re-provisioned, within the constraints imposed by the SLA, by allocating at least some required data processing

resources from data processing resources of the value-added services provider, and from at least one other service provider, to a data processing task of the customer.

33. (Original) A system as in claim 27, wherein the service provider is a value-added services provider, and wherein the customer is provisioned and re-provisioned, within the constraints imposed by the SLA, by allocating at least some required data processing resources from data processing resources of the value-added services provider, from at least one other service provider, and from the customer, to a data processing task of the customer, and further re-provisioning the customer, within the constraints imposed by the SLA, by changing the allocation of at least some of the allocated data processing resources.

34. (Original) A system as in claim 27, wherein the customer is re-provisioned, within the constraints imposed by the SLA, in response to a change in at least one of data processing resource utilization, a change in predicted or actual data processing resource availability, or a failure of a data processing resource.

35. (Previously Amended) A computer program embodied on at least one computer readable medium for service provisioning a customer with at least one software application from a service provider, said program comprising:

first executable code for establishing a set of attributes of a service provision;

second executable code, responsive to a user input, for selecting from said set of attributes for defining a Service Level Agreement (SLA) with the service provider;

third executable code for provisioning the customer, within the constraints imposed by the SLA, by allocating at least some required data processing resources to at least one of the service provider, the customer, to another service provider, or to a data processing site that offers data processing capacity for use; and

fourth executable code for transparently re-provisioning the customer, within the constraints imposed by the SLA, by re-allocating at least some required data processing resources between at least one of the service provider, the customer, the another service provider, or the data processing site that offers data processing capacity for use.

36. (Original) A system for service provisioning a customer with a software service, comprising:

a plurality of data processing sites coupled to a communication network, individual ones of said sites comprising program code for registering available data processing capability using said communication network; and

a virtual service provider coupled to the customer through the communication network, said virtual service provider comprising a system management server for establishing a set of attributes of a customer service provision, and for allocating data processing capability for provisioning the customer from the data processing capability registered by said plurality of data processing sites.

37. (Original) A system as in claim 36, wherein said virtual service provider further comprises a customer interface for enabling the customer to select from said set of attributes for defining a Service Level Agreement (SLA) with the service provider, said system management server being responsive to said SLA for provisioning the customer in accordance with constraints imposed by the SLA.

38. (Original) A system as in claim 36, wherein at least some of said plurality of data processing sites comprise personal computers.

39. (Original) A system as in claim 36, wherein said individual ones of said data processing sites comprising said program code for registering available data processing

capability register said available data processing capability with an e-marketplace that is accessible by said virtual service provider using said communication network.

40. (Original) A system as in claim 36, wherein said individual ones of said data processing sites comprising said program code for registering available data processing capability register said available data processing capability, and a desired rate for using said available data processing capability, with an e-marketplace accessible by said virtual service provider using said communication network.

END OF CLAIMS